



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

20NR-66
Job Sheet 191288



Part No: 20NR-66

Job Qty: 10 pcs

Part Name: Side rail



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/26/19

Job Tracking No:

Due Date: 5/10/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG 20NR-66 Rev.5 IPP Rev. A 19.02.26 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	NV5000 - 1	10	5/10/19	5/10/19	0.00	20.00	NV5000 - 1		PT 19-04-23
		pcs					NV5000 - 2		
110	QC 2	10	5/10/19	5/10/19	0.00	0.00	QC 2 - 1		PT 19-04-23
		pcs					QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 54		
							QC 2 - 56		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		



Dart Aerospace Ltd.
1270 Aberdeen Street
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CANADA
TEL: 1 613 632-5200
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www.dartaerospace.com

Container No: S174318



Part: 20NR-66

Job No: 191288

Serial No/Batch: S174318

Revision: 5

Inspector:

Exp Date:

Instructions:

Date: 04/23/19

120 QC 8	10 pcs	5/10/19	0.00 0.00	QC 2 - 66	
				QC 2 - 64	
				QC 8 - 12	
				QC 8 - 14	
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	mmc 14/04/20
				QC 8 - 58	
				QC 8 - 8	
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 47	
				QC 8 - 40	
125 Outsource - 4 - Anodize	10 pcs	5/10/19		GRO002-VC	04/29/2019 PL
126 Packaging 2-1 - Receive - B4B	10 pcs	5/10/19	0.00 0.00	Packaging 2 - 1 - B4B	
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	MAY 03 2019
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 -	

Plex 2/26/19 11:30 AM Dart.lajeunesse.marie

				B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
127	QC 6	10 pcs	5/10/19	0.00 0.00	QC 6 - 42
					QC 6 - 9
					QC 6 - 68
					QC 6 - 61
130	Packaging 3-1 - Stock - B4B	10 pcs	5/10/19	0.00 0.00	Packaging 3 - 1 - B4B
					Packaging 3 - 2 - B4B
					Packaging 3 - 3 - B4B
					Packaging 3 - 4 - B4B
					Packaging 3 - 5 - B4B
					Packaging 3 - 6 - B4B
					Packaging 3 - 7 - B4B
					Packaging 3 - 8 - B4B
					Packaging 3 - 9 - B4B
					Packaging 3 - 10 - B4B
					Packaging 3 - 11 - B4B
					Packaging 3 - 12 - B4B
					Packaging 3 - 13 - B4B
					Packaging 3 - 14 - B4B
					Packaging 3 - 15 - B4B
					Packaging 3 - 16 - B4B
					Packaging 3 - 17 - B4B
					Packaging 3 - 18 - B4B
					Packaging 3 - 19 - B4B
					Packaging 3 - 20 - B4B
					Packaging 3 - 21 - B4B
					Packaging 3 - 22 - B4B

DAS
MAY 06 2019
68
9-89

DAS
28
9-89

				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
140 QC 21 - SA	10 pcs	5/10/19	0.00 0.00	QC 21 - SA - 21	
				QC 21 - SA - 70	
				QC 21 - SA - 53	

Part Op 100 - 1-Machine as per folio FC 736 FOLIO REV: AA DWG REV: 5 2-Deburr
 Descriptions: 125 - -Issue P/O: H8043317 -Nickel plate, QQ-N-290, Class 2, Grade E or F -Nickel Plate .0004- .0006 -Bake after plating -Material type; 1018 -Certificate of Conformity is required
 126 - C of C required.

MAY 08 2019

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
M1018B1.000X01.750	1010-1025 Steel Bar 1.000 X 1.750	5.1000 ft (.51 ea)	100-NV5000 - 1	<u>5159395</u>
		<u>6.200 next line</u>		

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-NV5000 - 1	M1018B1.000X01.750	5	0	0

Part Specifications	
Specifications could not be found.	

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191288
~~191271~~

DART AEROSPACE LTD		Work Order:	
Description: <i>side rail</i>		Part Number:	<i>20 DR-66</i>
Inspection Dwg:	Rev: <i>5</i>	Page 1 of 1	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<i>.375</i>	<i>H-.005</i>	<i>.380</i>	<i>✓</i>		<i>PTOS</i>	<i>Plating</i>
<i>.563</i>	<i>H-.005</i>	<i>.562</i>	<i>✓</i>		<i>PTOS</i>	
<i>.135</i>	<i>H-.005</i>	<i>.141</i>	<i>✓</i>		<i>gage slack</i>	
<i>.170</i>	<i>H-.005</i>	<i>.171</i>	<i>✓</i>		<i>PTOS</i>	
<i>.750</i>	<i>H-.005</i>	<i>.750</i>	<i>✓</i>		<i>PTOS</i>	
<i>.160</i>	<i>H-.005</i>					
<i>.190</i>	<i>H-.005</i>	<i>.196</i>	<i>✓</i>		<i>PTOS</i>	
<i>.313</i>	<i>H-.005</i>	<i>.312</i>	<i>✓</i>		<i>pin</i>	
<i>.375</i>	<i>H-.005</i>	<i>.375</i>	<i>✓</i>		<i>PTOS</i>	
<i>.125</i>	<i>H-.005</i>					
<i>1.500</i>	<i>H-.001</i>	<i>1.499</i>	<i>✓</i>		<i>PTOI</i>	
<i>.120</i>	<i>-.000 / H-.001</i>	<i>.129</i>	<i>✓</i>		<i>pin</i>	
<i>2.203</i>	<i>-.001 / H-.005</i>	<i>.204</i>	<i>✓</i>		<i>pin</i>	
<i>1.500</i>	<i>-.0001 / H-.006</i>	<i>.502</i>	<i>✓</i>		<i>pin</i>	
<i>.28</i>	<i>H-.010</i>	<i>.372</i>	<i>✓</i>		<i>PTOS</i>	
<i>4.13</i>	<i>H-.010</i>	<i>4.123</i>	<i>✓</i>		<i>PTOS</i>	
<i>1.60</i>	<i>H-.010</i>	<i>1.603</i>	<i>✓</i>		<i>PTOS</i>	
<i>0.63</i>	<i>-.001 / H-.006</i>	<i>0.631</i>	<i>✓</i>		<i>pin</i>	
<i>.44</i>	<i>H-.010</i>	<i>.436</i>	<i>✓</i>		<i>PTOS</i>	
<i>.625</i>	<i>H-.005</i>	<i>.625</i>	<i>✓</i>		<i>PTOS</i>	
<i>.375</i>	<i>H-.005</i>	<i>.375</i>	<i>✓</i>		<i>PTOS</i>	
<i>.100</i>	<i>H-.005</i>	<i>.099</i>	<i>✓</i>		<i>PTOS</i>	
<i>.19</i>	<i>H-.00</i>	<i>.182</i>	<i>✓</i>		<i>PTOS</i>	
<i>380</i>	<i>H-.050</i>	<i>380</i>	<i>✓</i>			
<i>.125</i>	<i>H-.005</i>	<i>.124</i>	<i>✓</i>		<i>gage slack</i>	
<i>.313</i>	<i>H-.005</i>	<i>.312</i>	<i>✓</i>		<i>pin</i>	
<i>.160</i>	<i>H-.005</i>	<i>.151</i>	<i>✓</i>		<i>PTOS</i>	

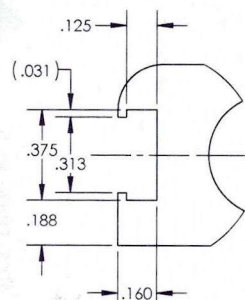
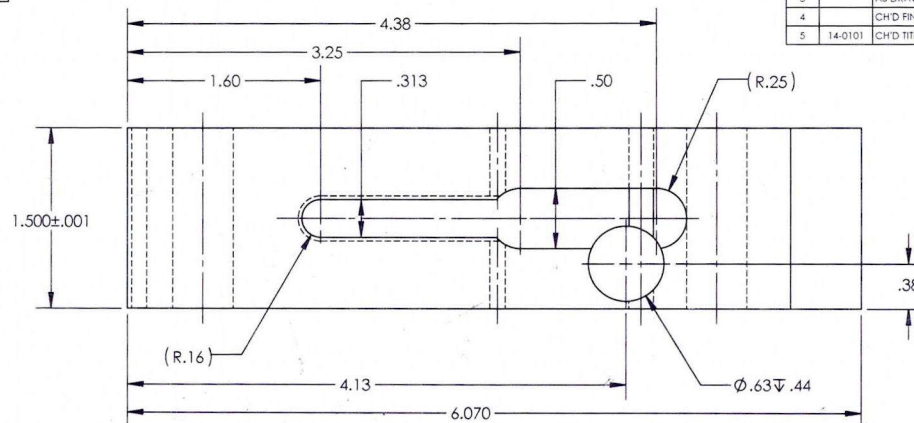
Measured by: <i>PS</i>	Checked by: <i>mm</i>	QC Inspector:
Date: <i>11-04-23</i>	Date: <i>19/01/26</i>	Date:

Engineering Approval: (If necessary)	Date:
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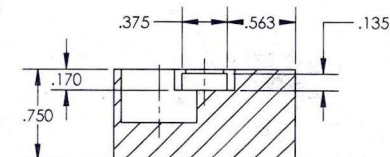
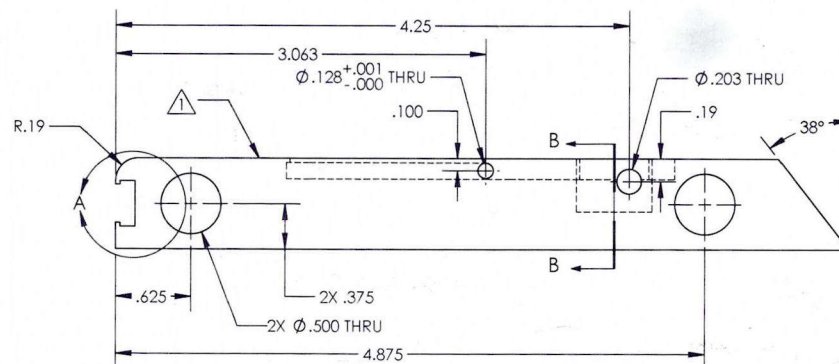
Rev	Date	Change	Revised by	Approved
A	14.07.31	New Issue	KJ	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3		AS DRAWN BY CANAM	7/22/2013	CFS	
4		CHD FINISH WAS CAD PLATE YELLOW IS NICKEL PLATE PER R.W.	10/10/2013	CFS	RW
5	14-0101	CHD TITLE BLOCK WAS RED BARN IS DART. ADDED MACHINE ENGRAVE NOTE.	7/30/2014	DJH	RW



DETAIL A
SCALE 2:1



SECTION B-B

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 191288 MWS
19-02-26

NOTES:

- MACHINE ENGRAVE BATCH NUMBER.
- NICKEL PLATE .0004 - .0006, BAKE AFTER PLATING.

USED ON	
20NR	
8NR	

DART AEROSPACE	
TITLE SIDE RAIL	
DWG NO. 20NR-66	REV 5
MAT'L 1018	DRAWN BY: CANAM
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/32 .XX ± .01 ANGLES ± 5° .X ± .1	APPROVED DATE FINISH SPEC USED ON MODEL
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:1	DATE 12/1/1995 SHEET 1 OF 1

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS
			20NR-66	1	SIDE RAIL	1018	7/8 X 1-5/8 X 6-1/8

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QS1042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Dart Aerospace Ltd.
1270 Aberdeen St
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K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB043317**



Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

Attention: Grenon, Sylvie

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB043317

PO Date: 4/29/19

Due Date: 5/3/19

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	191288	20NR-66	Side rail -Issue P/O; -Nickel plate, QQ-N-290, Class 2, Grade E or F -Nickel Plate .0004- .0006 -Bake after plating -Material type; 1018 -Certificate of Conformity is required	Firmed	-	5/3/19	10 pcs	0 pcs	10 pcs	\$12.00/pcs	\$120.00 68 9-89

10 X MAY 03 2019

Grand Total: \$120.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 5/3/19 9:15 AM Dart. Guerin.Kimberley



Certificat de Conformité / Certificate of Compliance



0 1 8 8 2 1 - 1

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
Tel: 514-335-3666 Fax: 514-335-3868
www.groupaltech.com

Bon de Livraison / Packing Slip

018821- 1

Livré à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON, K6A1K7
CANADA
Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON, K6A1K7
CANADA
BUYER:

Date expédition Ship date		Créé Par Generated By	Transport / No de Compte Courier / Acc. No.	Bon de commande Client Customer Purchase Order No.				
30-Apr-2019		SVETLANA DORZHIYEVA		POHB043317				
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/	À venir/ Back Order
1	20NR-66 Rev.	20NR-66 01 -E-NIC STEEL 200 [E-NICKEL STEEL 200] qq-n-290 class 2 grade e or f 0.0004-0.0006 THICK	E-NICKEL STEEL CH	10	10	0	0	DAS 68 9-89

Notes Additionnelles / Additional Notes

1 sm. psak.

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
Our financial and legal responsibility will not be higher than the amount of invoice.